

In the Claims

Please cancel claims 1-29 and 34-39, amend claim 30 and add new claims 53-55 as follows:

1. – 29. (Cancelled)

30. (Currently Amended) A method of manufacturing a micro-needle structure for penetrating the skin and other tissue barriers, said method comprising:

providing a suitable material from which said micro-needle structure can be fabricated by at least one micro-replication technique;

fabricating said micro-needle structure from said suitable material by said at least one micro-replication technique, wherein said micro-needle structure comprises a conical configuration comprising a proximal end defining a base having a center and a distal end having a vertex comprising a sharp tip, wherein said base has a diameter in the range from about 100 to 2,000 μm and wherein a line extending from said center of the base to said vertex defines a structural axis having a length in the range from about 100 to 10,000 μm ; and

forming an open lumen within said micro-needle structure, said open lumen defining a luminal axis and extending from said base to said vertex, wherein a distal end of said open lumen intersects said vertex and wherein said luminal axis and said structural axis ~~are not co-axial~~ intersect at an intersection angle.

31. (Previously Presented) The method of claim 30, wherein said open lumen is formed during the step of fabricating.

32. (Cancelled)

33. (Previously Presented) The method of claim 40 wherein said selectively angled tip comprises a beveled edge.

34. – 39. (Cancelled)

40. (Previously Presented) The method of claim 30 further comprising forming a selectively angled tip at said vertex.

41. (Previously Presented) The method of claim 30 wherein said suitable material is chosen from the group of a plastic and a resin.

42. (Previously Presented) The method of claim 30 wherein said suitable material is chosen from the group of acrylic, polyacrylates, polycarbonate, epoxies, polyesters, polyetheretherketone, polyvinylchloride, polyolefins and liquid crystalline polyesters.

43. (Previously Presented) The method of claim 41 wherein said at least one micro-replication technique comprises injection molding.

44. (Previously Presented) The method of claim 30 wherein said suitable material comprises a metal.

45. (Previously Presented) The method of claim 30 wherein the diameter of said open lumen is configured to exert a capillary force on a fluid present at said distal end of said open lumen.

46. (Previously Presented) A method of manufacturing a micro-needle structure, said method comprising:

providing a plastic material;

fabricating said micro-needle structure by injection molding said plastic material, wherein said micro-needle structure comprises an oblique cone configuration having a base and a vertex comprising a sharp tip; and

forming an open lumen within said micro-needle structure, said open lumen extending from said base to said vertex wherein a distal end of said open lumen intersects said vertex.

47. (Previously Presented) The method of claim 46 wherein a line extending from a center of said base to said vertex defines a structural axis, wherein said open lumen defines a luminal axis, and wherein said luminal axis and said structural axis are not co-axial.

48. (Previously Presented) A method of manufacturing a device comprising a micro-needle structure, said method comprising:

providing a suitable material from which said micro-needle structure can be fabricated by at least one micro-replication technique;

fabricating said micro-needle structure from said suitable material by said at least one micro-replication technique, wherein said micro-needle structure comprises an oblique cone configuration having a base and a vertex configured for penetrating the skin and other tissue barriers;

forming an open lumen within said micro-needle structure, said open lumen extending from said base to said vertex wherein a distal end of said open lumen intersects said vertex; and

integrating said micro-needle structure with another structure wherein said open lumen is in fluid communication with said other structure.

49. (Previously Presented) The method of claim 48, wherein said other structure comprises provided with means for receiving fluid and measuring a constituent of fluid received therein.

50. (Previously Presented) The method of claim 48, wherein said other structure comprises a chamber for holding a fluid therein.

51. (Previously Presented) The method of claim 50, wherein said fluid is a therapeutic agent.

52. (Previously Presented) The method of claim 48, further comprising fabricating a plurality of said micro-needle structures and integrating said plurality with said other structure wherein said open lumen of each said micro-needle structure is in fluid communication with said other structure.

53. (New) The method of claim 30, wherein said vertex defines a vertex angle wherein said vertex angle is greater than twice the intersection angle.

54. (New) The method of claim 46, wherein:
said vertex defines a vertex angle;
a line extending from a center of said base to said vertex defines a structural axis;
said open lumen defines a luminal axis, wherein said luminal axis and said structural axis intersect at an intersection angle; and
said vertex angle is greater than twice the intersection angle.

55. (New) The method of claim 48, wherein:

said vertex defines a vertex angle;
a line extending from a center of said base to said vertex defines a structural axis;
said open lumen defines a lumenal axis, wherein said lumenal axis and said structural axis
intersect at an intersection angle; and
said vertex angle is greater than twice the intersection angle.